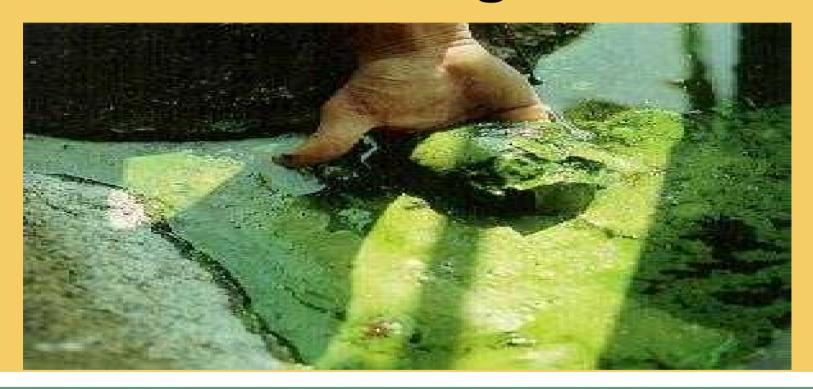
Blue Green Algae



Guidance · Support · Prevention · Protection

Dr. Bill Bress, State Toxicologist Environmental Health July 1, 2009



Vermont Department of Health





HEALTH ALERT

Keep children and pets away from ALGAE

Water may be green, blue, brown, red or appear cloudy. A thick foam or mat may be on the shoreline. Some algae may cause illness.

To report algae or for more information call

1-800-439-8550

or visit www.healthyvermonters.info

Blue Green Algae (BGA)

- "Cyanobacteria"
- Single cells, but when the cyanobacteria bloom, they can form a scum or a 'bloom' (pea-soup like)
- Grow in warm, still water
- May also appear red, purple or brown
- Appears like a paint-like sheen on water
- Warm water, phosphorus, nitrogen help bloom

Blue green algae is *not*:

- Long and stringy
- Rooted
- Attached to rocks
- Bright yellow (that's usually pine pollen)

Blue green algae toxins

- Toxins (microcystin and anatoxin) are made by some BGA cells
- Microcystin affects liver, anatoxin affects brain
- Toxins are released when cells die
- Waters immediately following the disappearance of a bloom might have a high toxin concentration

Vermont Department of Health

Exposure Routes



Ingestion (eating or drinking)





Dermal (skin)

Inhalation (breathing in)

Routes of Exposure

- Eating, dogs can lick fur, young children swallow water
- Skin exposure from swimming or bathing in water
- Breathing toxins during skiing or boating

BGA Toxin Ingestion Symptoms

- Symptoms may occur soon after exposure
- Nausea, vomiting, diarrhea, muscle fatigue

- Headache, abdominal pain
- Death (in rare instances)

BGA Toxin Dermal Symptoms

Itchy eyes and skin

Allergic like symptoms

Other animals affected by BGA toxins

Ducks, geese, songbirds

Fish, shellfish

Livestock

Pets

Where BGA blooms have been reported in Vermont

- Lake Champlain
- Lake Carmi
- Lake Memphremagog
- Shelburne Pond
- Lake St. Catherine
- Stoughton Pond

Discouraged Activities from Scummy Water

- No drinking (chlorine does not destroy toxins)
- No waterskiing
- No swimming
- No bathing
- No cooking (Boiling does not remove toxins)

<u>DO</u> Switch to a known safe source of water for drinking, cooking, tooth brushing.

What to Do If Exposed to BGA in a lake?

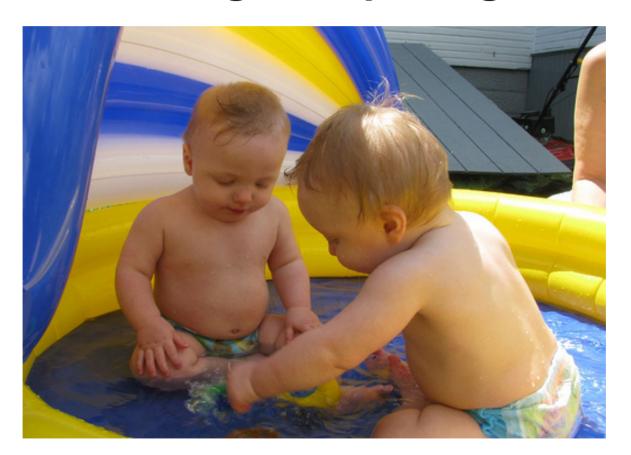
- Shower
- Wash clothes
- Seek medical attention, if needed

 Pets should be rinsed off and towel-dried to avoid licking any algae off the fur

What is VDH doing about BGA?

- VDH is working with UVM, Agency of Natural Resources to track blooms
- VDH issues public alerts, web site with map
- VDH Lab offers THOs water sampling kits for public water supplies and recreational water (microcystins and anatoxin)

Beach Closing/Re-Opening Guidance



Town Health Officer Role Regarding Blue Green Algae Occurrence

- Investigate complaints from citizens regarding algae at public swimming areas
- If you suspect a blue green algae bloom at a public beach, take water sample for toxins and send to Health Lab
- Post warning or closure signs, if warranted
- Report occurrences to Health Dept

Role of Health Officers cont.

- As the State and UVM collect samples themselves, they may call you to report blooms and or toxin presence and ask you to post a public swimming area.
- Once posted, you may reopen the area after the bloom has gone and your water samples are in acceptable limits

Close and post any public beach if any of the following condition are met:

- Visible known blue-green algae bloom/scum or an unknown, potentially blue-green algae (i.e., not pollen), bloom/scum
- Microcystin concentration greater than or equal to 6 ug/L (ppb)
- Anatoxin-a concentration greater than or equal to 10 ug/L (ppb)

Reopen beach only if all 3 of these conditions are met:

- No visible blue-green algae bloom/scum
- Microcystin concentration is less than 6 ug/L (ppb)
- Anatoxin-a concentration is less than 10 ug/L (ppb)

Vermont Department of Health



HEALTH ALERT

Keep children and pets



Water may be green, blue, brown, red or appear cloudy. A thick foam or mat may be on the shoreline. Some algae may cause illness.

To report algae or for more information call

1-800-439-8550

or visit healthvermont.gov

ATTENTION SWIMMING AREA CLOSED as of local health officer has determined that swimming in this area presents a public health risk because of water contaminated by It will be retested on For more information contact: **Local Town Health Officer**

If a town water supply may be impacted

 The water operator should call the Water Supply Division for assistance at 1-800-823-6500

For more information

- Laboratory test kits: (800) 660-9997
 (Kit BGA-1 and Kit ANA)
- Lake Champlain Status Map and other health information:
 - http://healthvermont.gov/enviro/bg_algae/weekly_
 status.aspx (or www.healthvermont.gov
 Contents A-Z; "B" for blue-green algae)
- Report blooms or additional health advice: 800-439-8550

An algae-free lake is a fun place to play

